

## Osnovno - sintaksa i elementarne funkcije

```
In[2]:= 2 + 2  
        3 + 3
```

Out[2]= 4

Out[3]= 6

```
In[3]:= a = 2  
        a + a
```

Out[4]= 2

Out[5]= 4

```
In[7]:= Sin[30 * Pi / 180]
```

Out[7]=  $\frac{1}{2}$

```
In[46]:= Cos[30 * Pi / 180]  
         Tan[30 * Pi / 180]  
         Sqrt[2.5]  
         Exp[2]  
         Log[E]  
         Log[5.3]
```

Out[46]=  $\frac{\sqrt{3}}{2}$

Out[47]=  $\frac{1}{\sqrt{3}}$

Out[48]= 1.58114

Out[49]=  $e^2$

Out[50]= 1

Out[51]= 1.66771

```
In[59]:= RandomInteger[3]  
         RandomReal[3]
```

Out[59]= 2

Out[60]= 1.22851

```
In[38]:= lista = {1, 3, 5, 7};  
         lista[[1]]  
         lista[[3]]  
         lista[[-1]]
```

Out[39]= 1

Out[40]= 5

Out[41]= 7

```
In[29]:= lista = Table[2 n + 1, {n, 0, 3, 1}]
```

```
Out[29]= {1, 3, 5, 7}
```

```
In[80]:= Sin[lista * 1.0]
```

```
Out[80]= {0.841471, 0.14112, -0.958924, 0.656987}
```

```
In[82]:= {a, 2 / 3, E^2, x + y, {1, 2, 3}}
```

```
Out[82]= {a,  $\frac{2}{3}$ ,  $e^2$ , x + y, {1, 2, 3}}
```

```
In[2]:= (* Zadatak: napraviti listu pomocu Table, elementi da su Sin[x], x=n*30, 0 do 2Pi *)
Table[Sin[x], {x, 0, 2 Pi, Pi / 6}]
```

```
Out[2]= {0,  $\frac{1}{2}$ ,  $\frac{\sqrt{3}}{2}$ , 1,  $\frac{\sqrt{3}}{2}$ ,  $\frac{1}{2}$ , 0,  $-\frac{1}{2}$ ,  $-\frac{\sqrt{3}}{2}$ , -1,  $-\frac{\sqrt{3}}{2}$ ,  $-\frac{1}{2}$ , 0}
```

Simbolicki racun - algebra

```
In[20]:= x + y + 2 x
```

```
Out[20]= 3 x + y
```

```
In[21]:= Solve[x + 2 == 3, x]
```

```
Out[21]= {{x -> 1}}
```

```
In[22]:= Solve[x + y == z, x]
```

```
Out[22]= {{x -> -y + z}}
```

```
In[24]:= Solve[{x + y == 2, x - y == 0}, {x, y}]
```

```
Out[24]= {{x -> 1, y -> 1}}
```

```
In[69]:= Log[(t + 5) ^ 2] /. {t -> 25.3}
```

```
Out[69]= 6.8223
```

```
In[70]:= resenje = Solve[x + y == z, x];
xr = x /. resenje[[1]]
```

```
Out[71]= -y + z
```

```
In[43]:= (1 + x) ^ 10
Expand[(1 + x) ^ 10]
```

```
Out[43]= (1 + x) ^ 10
```

```
Out[44]= 1 + 10 x + 45 x^2 + 120 x^3 + 210 x^4 + 252 x^5 + 210 x^6 + 120 x^7 + 45 x^8 + 10 x^9 + x^10
```

```
In[45]:= Factor[%]
```

```
Out[45]= (1 + x) ^ 10
```

Simbolicki racun - izvodi i integrali

```
In[73]:= D[Sin[x], x]
```

```
Out[73]= Cos[x]
```

```
In[75]:= D[Exp[Exp[Exp[x]]], x]
```

```
Out[75]= eeex+ex+x
```

```
In[9]:= y[x_] := x^2
        y'[x]
```

```
Out[10]= 2 x
```

```
In[77]:= Integrate[x Exp[x], x]
```

```
Out[77]= ex (-1 + x)
```